US5620690:Immunogenic complexes

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Applicant(s): **De Stat Der Nederlanden Vertegenwoordigd Door De Minister Van Welzijn Volksgezondheid En Cultuur**, Rijswijk, Netherlands
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Issued/Filed Dates: **April 15, 1997** / April 19, 1993 CC

Application Number: **US1993000039294**

IPC Class: **C07G 3/00;** A61K 39/00; C07H 15/24; C07H 17/00;

ECLA Code: **A61K39/39; C07H15/256; C07K14/12; C07K14/22;**

Class: **Current: 424/184.1;** 424/489; 536/004.1; 536/005; 536/006.3;
Original: 424/184.1; 536/041; 536/005; 536/006.3; 424/489;

Field of Search: **536/4.1,5,6.3 424/88,89,92,184.1,489**

Priority Number(s): Oct. 23, 1990 **NL1990000002314**

Legal Status: Show legal status actions

Abstract: The invention relates to immunogenic complexes such as two-dimensional lamellae having a honeycomb structure and in particular three-dimensional iscoms, which immunogenic complexes are composed of at least one sterol, one saponin and, in the case of iscoms, also a phospholipid and also, optionally, at least one antigen generating an immune reaction. The saponin used is at least one of the fractions which are derived from Quil A by means of hydrophobic interaction chromatography and have the designations QA 1 to QA 23, as is shown in the figure by the numerals 1 to 23. Preferably, the saponin used is one or more of the fractions derived from Quil A having the designations QA 3, QA 17 and QA 23. As well as relating to the immunogenic complex, the invention also relates to the specific method of preparation of the relevant Quil A fractions, to vaccines which contain such

immunogenic complexes and to kits which contain, on the one hand, an (empty) immunogenic complex and, on the other hand, one or more antigenic proteins or peptides having a hydrophobic fragment which may or may not have been synthetically introduced.

Attorney, Agent, or Firm: **Brumbaugh, Graves, Donohue & Raymond;**

Primary/Assistant Examiners: **Housel; James C.**; Minnifield; N. M.

Family: Show known family members

U.S. References: Show the 1 patent that references this one

Patent	Issued	Inventor (s)	Applicant(s)	Title
US4578269	3 /1986	Morein		Immunogenic protein or peptide complex, method or producing said complex and the use thereof as an immune stimulant and as a vaccine
US4744983	5 /1988	Morein		Immunogenic protein or peptide complex, method of producing said complex and the use thereof as an immune stimulant and as a vaccine
US4900549	2 /1990	DeVries et al.	De Staat der Nederlanden Vertegenwoordigd door de Minister van Welzion, Volksgezondheid en Cultuur	Process for preparing immunogenic complexes and pharmaceutical composition containing these complexes
US4981684	1 /1991	MacKenzie et al.	Coopers Animal Health Limited	Formation of adjuvant complexes
US5057540	10 /1991	Kensil et al.	Cambridge Biotech Corporation	Saponin adjuvant
US5254339	10 /1993	Morein		Process for preparing immune complexes
US5273965	12 /1993	Kensil et al.	Cambridge Biotech Corporation	Methods for enhancing drug delivery with modified saponins

CLAIMS: We claim:

[Hide claims]: 1. An immunogenic complex in the form of an iscom comprising at least one sterol, at least one phospholipid and at least one Quil A fraction derived from Quil A hydrophobic interaction chromatography, wherein said Quil A fraction exhibits adjuvant activity and reduced toxicity relative to Quil A, and wherein said Quil A fraction is selected from the group consisting of fractions having the designations QA1, 3, 5, 6, 9, 12, 13, 14, 17, 18, 20 and

2. The immunogenic complex according to claim 1 wherein said at least one Quil A fraction is fraction QA3.

3. The immunogenic complex according to claim 1 comprising QA3 and QA17.

4. The immunogenic complex according to claim 1, wherein said immunogenic complex also contains at least one antigenic protein or peptide containing a natural or synthetically introduced hydrophobic fragment.

5. The immunogenic complex according to claim 4 wherein said antigenic proteins or peptides are membrane proteins or peptides that are synthetic or isolatable selected from the group consisting of viruses, bacteria, mycoplasmas, parasites, and animal cells.

6. A pharmaceutical composition comprising an immunogenic complex according to claim 4 and a pharmaceutical acceptable carrier.

7. A Quil A fraction derived from Quil A by hydrophobic interaction chromatography wherein said fraction is selected from the group consisting of fractions having the designations QA1, 3, 5, 6, 9, 12, 13, 14, 17, 18, 20 and 23.

8. A method of preparation of QA fractions having the designations QA1, 3, 5, 6, 9, 12, 13, 14, 17, 18, 20 and 23 comprising:

- dissolving Quil A in water;
- separating said Quil A in the resulting solution in a semi-preparative hydrophobic interaction column using an acetonitrile/water solution, buffered in a pH of 6, as mobile phase; and
- recovering the separated fractions having the designations QA1, 3, 5, 6, 9, 12, 13, 14, 17, 18, 20 and 23.

9. A kit comprising the immunogenic complex according to claim 1 and one or more antigenic proteins or peptides having a natural or synthetically introduced hydrophobic fragment.

10. Quil A fraction having the designation QA 3, which has a MW (monoisotopic) determined via FAB/MS of 1862.8, which compound has the following structure: *[Figure]* where: *[Figure]* - (xyl,api)=both xyl and api, but in unknown order and: if *[Figure]* is rham, then *[Figure]* is fuc, and vice versa, wherein said fraction forms iscoms, and exhibits adjuvant activity and reduced toxicity.

Background/Summary: Show background/summary

Drawing Descriptions: Show drawing descriptions

Description of Preferred Embodiments: Show description of preferred embodiments

PCT Number: **PCT/NL91/00211**

PCT Pub./Filed Dates: **1992-04-30** / 1991-10-23

§ 371 / 102(e) Dates: **1993-04-19** / 1993-04-19

Foreign References:

Publication	Country	Date	IPC Class
WO08809336	World Intellectual Property Organization (WIPO)	12 /1988	
WO09003184	World Intellectual Property Organization (WIPO)	4 /1990	

Other Abstract Info: CHEMABS 117(05)046550S DERABS C1992-166886

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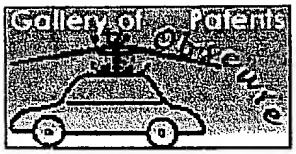

US5695769:Pasteurella multocida toxoid vaccines

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Issued/Filed Dates: **Dec. 9, 1997** / July 11, 1994

Application Number: **US1994000244052**

IPC Class: **A61K 39/102;** A61K 39/10; A61K 39/116; A61K 39/02;

ECLA Code: **A61K39/102; A61K39/116; C07K14/285; A61K39/02B; A61K39/10;**

Class: **Current: 424/255.1;** 424/093.3; 424/203.1; 424/236.1; 424/253.1;
Original: 424/255.1; 424/236.1; 424/253.1; 424/203.1; 424/093.3;

Field of Search: **424/203.1,255.1,253.1,236.1,93.3**

Legal Status: Show legal status actions

Abstract: This invention provides vaccine compositions, methods of producing same and methods for protecting porcine animals against disease associated with infection by toxigenic Pasteurella multocida. The vaccines of this invention contain effective amounts of a P. multocida bacterin with a cell-bound toxoid and, optionally, a P. multocida free toxoid.

Attorney, Agent, or Firm: **Richardson; Peter C.; Ginsburg; Paul H.; Koller; Alan L.;**

Primary/Assistant Examiners: **Sidberry; Hazel F.**;

Related Applications:

Application Number	ApplDate	Patent	Issued	Title
US1990000537454	1990-06-13	US5536496	1996-07-16	Pasteurella multocida toxoid vaccines
US1991000792490	1991-11-15			

Family: Show known family members

U.S. References: **none**

No patents reference this one

CLAIMS: [Hide claims]:

What is claimed is:

1. A vaccine composition comprising an immunogenic amount of a Pasteurella multocida bacterin, said bacterin comprising a cell-bound toxoid, an immunogenic amount of an alkaline-toxoided Pasteurella multocida cell-free toxin, and a carrier suitable for internal administration.

2. The vaccine composition of claim 1, further comprising an immunogenic amount of one or more additional antigens.

3. The vaccine composition of claim 2, wherein said additional antigens are selected from the group consisting of a Bordetella bronchiseptica bacterin, an Erysipelothrix rhusiopathiae bacterin, inactivated Mycoplasma hyopneumoniae, and Escherichia coli antigens.

4. The vaccine composition of claim 1, wherein said Pasteurella multocida bacterin is prepared from a toxigenic Type D strain.

5. The vaccine composition of claim 4, wherein said toxigenic Type D strain is Pasteurella multocida Type D strain 8.

6. The vaccine composition of claim 1, further comprising one or more adjuvants.

7. The vaccine composition of claim 6, wherein said adjuvants are selected from the group consisting of dispersed oils, mineral oil and lecithin emulsion, $Al_2 OH_3$, muramyl dipeptide, saponins, and Quil A.

8. The vaccine composition of claim 6, wherein said adjuvants are dispersed oils and $Al_2 OH_3$.

9. A method of vaccinating an animal against Pasteurella multocida comprising internally administering to said animal the vaccine composition of claim 1.

10. The method of claim 9 wherein said vaccine composition further comprises an immunogeneic amount of one or more additional antigens, said additional antigens selected from the group consisting of a Bordetella bronchiseptica bacterin, an Erysipelothrix rhusiopathiae bacterin, inactivated Mycoplasma hyopneumoniae, and Escherichia coli antigens.

11. The method of claim 9 wherein said vaccine composition further comprises one or more adjuvants.

12. The method of claim 11 wherein said adjuvants are selected from the group consisting of dispersed oils, mineral oil and lecithin emulsion, $Al_2 OH_3$, muramyl dipeptide, saponins, and Quil A.

13. The method of claim 11 wherein said adjuvants are dispersed oils and $Al_2 OH_3$.

14. A method of vaccinating an animal against Pasteurella multocida comprising the sequential steps of internally

administering to said animal an immunogenic amount of a Pasteurella multocida bacterin, said bacterin comprising a cell-bound toxoid, and internally administering to said animal an immunogenic amount of an alkaline-toxoided Pasteurella multocida cell-free toxin.

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is the United States national stage of International Application No. PCT/US92/10008, filed Nov. 13, 1992, which is a continuation of U.S. application No. 07/792,490, filed Nov. 15, 1991, now abandoned, which is a continuation-in-part of application no. 07/537,454, filed Jun. 13, 1990, now U.S. Pat. No. 5,536,496.

Background/Summary: Show background/summary

Drawing Descriptions: Show drawing descriptions

Description of Preferred Embodiments: Show description of preferred embodiments

PCT Number: **PCT/US92/10008**

PCT Pub./Filed Dates: **1993-05-27** / 1992-11-13

§ 371 / 102(e) Dates: **1994-07-11** / 1994-07-11

Foreign References: **none**

No patents reference this one

Other Abstract Info: CHEMABS 119(06)056130K DERABS C1992-024125 DERABS C1993-182249

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US6218166:Adjuvant incorporation into antigen carrying cells: compositions and methods

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Applicant(s): **John Wayne Cancer Institute**, Santa Monica, CA
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Issued/Filed Dates: **April 17, 2001** / June 5, 1995

Application Number: **US1995000462106**

IPC Class: **A61K 39/00;** A61K 45/00; A61K 39/40; A61K 39/395;

Class: **435/240.2;** 424/240.1; 424/277.1; 424/283.1; 424/184.1; 424/078.31; 424/278.1; 424/179.1; 424/174.1; 424/150.1; 424/201.1;

Field of Search: **424/240.1,277.1,283.1,184.1,78.31,278.1,179.1,150.1,201.1,174.1 435/240.2**

Abstract: Disclosed are compositions and methods for enhancing the antibody and T cell response to cellular antigens by incorporating an immunopotentiating agent into the cellular membrane or into an intracellular compartment. Such adjuvant-incorporated cell compositions are useful in methods to increase immune responses against antigens, including immunologically cryptic tumor cell antigens, and may be employed to generate useful diagnostic antibodies, to elicit anti-tumor effects in immunized animals, and to significantly prolong survival in animals with cancer.

Attorney, Agent, or Firm: **Fulbright & Jaworski LLP;**

Primary/Assistant Examiners: **Minnifield; Nita**;

Related Applications:

Application Number	ApplDate	Patent	Issued	Title
US1994000353549	1994-12-09			

Family: Show known family members

U.S. References: No patents reference this one

Patent	Issued	Inventor(s)	Applicant(s)	Title
US4435386	3 /1984	Ribi et al.	Ribi ImmunoChem Research, Inc.	Refined detoxified endotoxin product
US4436727	3 /1984	Ribi	Ribi ImmunoChem Research, Inc.	Refined detoxified endotoxin product
US4436728	3 /1984	Ribi et al.	Ribi ImmunoChem Research, Inc.	Refined detoxified endotoxin product
US4505899	3 /1985	Ribi et al.	Ribi ImmunoChem Research, Inc.	Refined detoxified endotoxin product
US4505900	3 /1985	Ribi et al.	Ribi ImmunoChem Research, Inc.	Refined detoxified endotoxin product
US4520019	5 /1985	Ribi et al.	Ribi ImmunoChem Research, Inc.	Stable composition and preparation thereof
US4579945	4 /1986	Schwartzman et al.	Ribi ImmunoChem Research, Inc.	Purification of trehalose dimycolates
US4629722	12 /1986	Ribi	Ribi ImmunoChem Research, Inc.	Method of inhibiting the onset of acute radiation syndrome
US4844894	7 /1989	Ribi	Ribi Immunochem Research Inc.	Method of inhibiting the onset of septicemia and endotoxemia
US4866034	9 /1989	Ribi	Ribi Immunochem Research Inc.	Refined detoxified endotoxin
US4877611	10 /1989	Cantrell	Ribi ImmunoChem Research Inc.	Vaccine containing tumor antigens and adjuvants
US4950645	8 /1990	Vosika et al.	ImmunoTherapeutics, Inc.	Composition for macrophage activation
US4987237	1 /1991	Myers et al.	Ribi ImmunoChem Research, Inc.	Derivatives of monophosphoryl lipid A
US5102663	4 /1992	Livingston et al.	Sloan-Kettering Instutute for Cancer Research	Vaccine for stimulating or enhancing production of antibodies against 9-O-acetyl GD3
US5290551	3 /1994	Berd	Thomas Jefferson University	Treatment of melanoma with a vaccine comprising irradiated autologous melanoma tumor cells conjugated to a hapten
US5312620	5 /1994	Ribi		Polymeric immunological adjuvants
				Composition

US5840317	11 /1998	Morton		comprising tumor cell lines containing GD2 ganglioside GM2 ganglioside, M-TAA, and either M-urinary antigen or M-fetal antigen
US5882654	3 /1999	Morton		Polyvalent melanoma vaccine
US5993828	11 /1999	Morton		Tumor associated antigen compositions and methods
US6075134	6 /2000	Bertozzi et al.	The Regents of the University of California	Glycoconjugates and methods

CLAIMS:
[Hide claims]:

What is claimed is:

1. A composition comprising a cell that includes an adjuvant non-covalently incorporated into the cell surface membrane or an intracellular compartment of said cell.

2. The composition of claim 1, comprising a cell in which an adjuvant is non-covalently incorporated into the cell surface membrane of said cell.

3. The composition of claim 1, comprising a cell that includes an adjuvant non-covalently incorporated into the cell surface membrane and an adjuvant non-covalently incorporated into an intracellular compartment of said cell.

4. The composition of claim 1, wherein said cell is a human cell.

5. The composition of claim 1, wherein said cell is an erythrocyte.

6. The composition of claim 1, wherein said cell comprises an intracellular antigen.

7. The composition of claim 1, wherein said cell is a tumor cell.

8. The composition of claim 7, wherein said cell is a tumor cell listed in Table 2 or Table 3.

9. The composition of claim 7, wherein said cell is an irradiated tumor cell.

10. The composition of claim 7, wherein said cell is a tumor cell that comprises a tumor-associated intracellular antigen.

11. The composition of claim 7, wherein said cell is a tumor cell that comprises a tumor-associated ganglioside antigen.

12. The composition of claim 7, wherein said cell is a melanoma cell.

13. The composition of claim 12, wherein said cell is a mouse melanoma cell.

14. The composition of claim 13, wherein said cell is the mouse melanoma cell B16.

15. The composition of claim 12, wherein said cell is a human melanoma cell.

16. The composition of claim 15, wherein said cell is the human melanoma cell M27, M18, M14, M111, M22, M7, M102, M108, M16, M104, M109, M25, M24, M10 or M101.

17. The composition of claim 16, wherein said cell is the human melanoma cell M14, M7, M24, M25, M10 or M101.

18. The composition of claim 1, comprising a cell that includes two or more distinct adjuvants non-covalently incorporated into the cell surface membrane or an intracellular compartment of said cell.

19. The composition of claim 1, further comprising a combination

of cell types, wherein at least one of which cell types includes an adjuvant non-covalently incorporated into the cell surface membrane or an intracellular compartment of said cell.

20. The composition of claim 1, wherein said adjuvant is an adjuvant listed in Table 1.

21. The composition of claim 20, wherein said adjuvant is lipoteichoic acid (LTA), ribitol technic acid (RTA), glycerol teichoic acid (GTA), hemocyanin from keyhole limpet (KLH), chitin, chitosan, muramyl dipeptide (MDP), threonyl-MDP, a fatty acid derivative of muramyl dipeptide (MTPPE), bacillus Calmette-Guerin (BCG), cell wall skeleton (CWS), trehalose dimycolate, QS21, Quil A or lentinen.

22. The composition of claim 20, wherein said adjuvant is a bacterial superantigen.

23. The composition of claim 20, wherein said adjuvant is of the lipopolysaccharide group of adjuvants.

24. The composition of claim 23, wherein said adjuvant is a detoxified endotoxin.

25. The composition of claim 24, wherein said adjuvant is monophosphoryl lipid A (MPL).

26. The composition of claim 1, comprising a population of cells that includes between about 0.4 ng and about 3.1 ng of cell surface-associated adjuvant per 10^6 cells, wherein said adjuvant is non-covalently incorporated into the cell surface membrane of said cells.

27. The composition of claim 26, comprising a population of cells that includes between about 1.6 ng and about 2.4 ng of cell surface-associated adjuvant per 10^6 cells, wherein said adjuvant is non-covalently incorporated into the cell surface membrane of said cells.

28. The composition of claim 1, dispersed in a pharmacologically acceptable formulation.

29. The composition of claim 1, prepared by a method comprising the steps of:

- (a) preparing an adjuvant-suspended culture media composition by sonicating an adjuvant with a culture medium;
- (b) obtaining a cell composition; and
- (c) admixing said adjuvant-suspended culture media composition and said cell composition under conditions effective and for a period of time suitable to allow non-covalent incorporation of the adjuvant into the cell surface membrane or an intracellular compartment of a cell, thereby preparing said composition.

30. The composition of claim 12, prepared by a method comprising the steps of:

- (a) preparing an MPL-suspended culture media composition by sonicating MPL with a culture medium;
- (b) obtaining a melanoma cell composition; and
- (c) admixing said MPL-suspended culture media composition and said melanoma cell composition under conditions effective and for a period of time suitable to allow non-covalent incorporation of the MPL into the cell surface membrane or an intracellular compartment of a cell, thereby preparing said composition.

31. A method of preparing an adjuvant-cell composition in which an adjuvant is non-covalently incorporated into the cell surface membrane or an intracellular compartment of a cell, comprising admixing an adjuvant composition with a cell composition under conditions effective and for a period of time suitable to allow non-covalent incorporation of the adjuvant into a cell surface membrane or an intracellular compartment of a cell, thereby preparing said adjuvant-cell composition.

32. The method of claim 31, comprising the steps of:

- (a) preparing an adjuvant-suspended culture media composition;
- (b) obtaining a cell composition; and
- (c) admixing said adjuvant-suspended culture media composition and said cell composition under conditions effective and for a period of time suitable to allow non-covalent incorporation of the adjuvant into a cell surface membrane or an intracellular compartment of a cell, thereby preparing said adjuvant-cell composition.

33. The method of claim 32, wherein said adjuvant-suspended culture media composition is prepared by sonication.

34. The method of claim 32, wherein said adjuvant-suspended culture media and said cell composition are admixed at a temperature of between about 10° C. and about 40° C.

35. The method of claim 34, wherein said adjuvant-suspended culture media and said cell composition are admixed at a temperature of about 37° C.

36. A method for stimulating an immune response, comprising administering to an animal an immunologically effective amount of an adjuvant-cell composition comprising a cell that includes an adjuvant non-covalently incorporated into the cell surface membrane or an intracellular compartment of said cell.

37. The method of claim 36, wherein a biological sample is obtained from said animal to provide an antibody.

38. The method of claim 37, wherein a blood sample is obtained from said animal to provide a polyclonal antibody.

39. The method of claim 37, wherein a spleen cell sample is obtained from said animal to provide a monoclonal antibody.

40. The method of claim 36, wherein a biological sample is obtained from said animal to provide an antigen-specific T cell.

41. The method of claim 36, wherein said adjuvant-cell composition comprises an erythrocyte that includes an adjuvant non-covalently incorporated into the erythrocyte cell surface membrane or an intracellular compartment of said erythrocyte.

42. The method of claim 36, wherein said adjuvant-cell composition comprises an irradiated tumor cell that includes an adjuvant non-covalently incorporated into the tumor cell surface or an intracellular compartment of said tumor cell.

43. The method of claim 42, wherein said adjuvant-cell composition comprises an irradiated melanoma cell that includes an adjuvant non-covalently incorporated into the melanoma cell surface or an intracellular compartment of said melanoma cell.

44. The method of claim 36, wherein said adjuvant-cell composition comprises a cell that is obtained from an animal, non-covalently incorporated into said adjuvant in vitro, and then administered to the same animal.

45. The method of claim 36, wherein said adjuvant-cell

composition comprises an [illegible], MDP, threonyl-MDP, MTPPE, BCG, cell wall skeleton (CWS), trehalose dimycolate, QS21, Quil A or lentinen adjuvant in non-covalent association with the cell surface or an intracellular compartment of said cell.

46. The method of claim 36, wherein said adjuvant-cell composition comprises a bacterial superantigen adjuvant in non-covalent association with the cell surface or an intracellular compartment of said cell.

47. The method of claim 36, wherein said adjuvant-cell composition comprises a detoxified endotoxin adjuvant non-covalently incorporated into the cell surface membrane or an intracellular compartment of said cell.

48. The method of claim 36, wherein said animal is a human subject.

49. The method of claim 36, wherein said adjuvant-cell composition comprises a cell that includes an adjuvant non-covalently incorporated into the cell surface membrane and an adjuvant in non-covalent association with an intracellular compartment of said cell.

50. The method of claim 36, wherein said cell that includes an adjuvant non-covalently incorporated into the cell surface membrane or an intracellular compartment is selected from the group consisting of: an adenocarcinoma cell, adenoma cell, astrocytoma cell, bladder tumor cell, brain tumor cell, Burkitt lymphoma cell, breast carcinoma cell, cervical carcinoma cell, colon carcinoma cell, kidney carcinoma cell, liver carcinoma cell, lung carcinoma cell, ovarian carcinoma cell, pancreatic carcinoma cell, prostate carcinoma cell, rectal carcinoma cell, skin carcinoma cell, stomach carcinoma cell, testis carcinoma cell, thyroid carcinoma cell, chondrosarcoma cell, choriocarcinoma cell, fibroma cell, fibrosarcoma cell, glioblastoma cell, glioma cell, hepatoma cell, histiocytoma cell, leiomyoblastoma cell, leiomyosarcoma cell, leukemia cell, lymphoma cell, liposarcoma cell, mammary tumor cell, medulloblastoma cell, myeloma cell, plasmacytoma cell, neuroblastoma cell, neuroglioma cell, osteogenic sarcoma cell, pancreatic tumor cell, pituitary tumor cell, retinoblastoma cell, rhabdomyosarcoma cell, sarcoma cell, testicular tumor cell, thymoma cell or a Wilms' tumor cell.

51. The method of claim 36, wherein said animal has cancer.

52. The method of claim 48, wherein said human has cancer.

53. A composition comprising a cell that includes an adjuvant that is integrated into the cell surface membrane of the cell, non-covalently incorporated into a cell surface membrane protein of the cell, or that is incorporated into an intracellular compartment of the cell.

54. A method for stimulating an immune response, comprising administering to an animal an immunologically effective amount of an adjuvant-cell composition comprising a cell that includes an adjuvant that is integrated into the cell surface membrane of the cell, non-covalently incorporated into a cell surface membrane protein of the cell, or that is incorporated into an intracellular compartment of the cell.

55. The composition of claim 2, comprising a cell that includes an adjuvant that is integrated into the membrane bilayer at the cell surface of said cell.

56. The composition of claim 2, comprising a cell that includes an adjuvant that is non-covalently incorporated into a membrane protein within the cell surface membrane of said cell.

57. A composition comprising a cell that includes an adjuvant that is integrated into the cell surface membrane of the cell or that

is non-covalently incorporated into an intracellular compartment of the cell.

58. A method for stimulating an immune response, comprising administering to an animal an immunologically effective amount of an adjuvant-cell composition comprising a cell that includes an adjuvant that is integrated into the cell surface membrane of the cell or that is non-covalently incorporated into an intracellular compartment of the cell.

59. A composition comprising a cell that includes an adjuvant non-covalently incorporated into the cell surface of the cell and an adjuvant non-covalently incorporated into an intracellular compartment of the cell.

60. The composition of claim 59, wherein said cell is a human cell.

61. The composition of claim 59, wherein said cell is a tumor cell.

62. The composition of claim 61, wherein said cell is a tumor cell listed in Table 2 or Table 3.

63. The composition of claim 61, wherein said cell is an irradiated tumor cell.

64. The composition of claim 61, wherein said cell is a tumor cell that comprises a tumor-associated intracellular antigen.

65. The composition of claim 61, wherein said cell is a tumor cell that comprises a tumor-associated ganglioside antigen.

66. The composition of claim 61, wherein said cell is a melanoma cell.

67. The composition of claim 59, wherein said adjuvant is an adjuvant listed in Table 1.

68. The composition of claim 67, wherein said adjuvant is a detoxified endotoxin.

69. The composition of claim 68, wherein said adjuvant is monophosphoryl lipid A (MPL).

70. A method for stimulating an immune response, comprising administering to an animal an immunologically effective amount of an adjuvant-cell composition comprising a cell that includes an adjuvant non-covalently incorporated into the cell surface membrane of the cell and an adjuvant non-covalently incorporated into an intracellular compartment of the cell.

71. A composition comprising a cell that includes an adjuvant non-covalently incorporated into an intracellular compartment of the cell.

72. The composition of claim 71, wherein said cell is a human cell.

73. The composition of claim 71, wherein said cell is a tumor cell that comprises an intracellular tumor-associated antigen.

74. The composition of claim 73, wherein said cell is a tumor cell that comprises an intracellular tumor-associated antigen listed in Table 12.

75. The composition of claim 73, wherein said cell is an irradiated tumor cell.

76. The composition of claim 71, wherein said adjuvant is monophosphoryl lipid A (MPL).

77. A method for stimulating an immune response, comprising administering to an animal an immunologically effective amount of an adjuvant-cell composition comprising a cell that includes an adjuvant non-covalently incorporated into an intracellular compartment of the cell.

78. A composition comprising an erythrocyte that includes an adjuvant non-covalently incorporated into the erythrocyte cell surface or an intracellular compartment of the erythrocyte.

human erythrocyte.

80. The composition of claim 78, wherein said erythrocyte is coated with a tumor-associated antigen.

81. The composition of claim 78, wherein said adjuvant is monophosphoryl lipid A (MPL).

82. A method for stimulating an immune response, comprising administering to an animal an immunologically effective amount of an adjuvant-cell composition comprising an erythrocyte that includes an adjuvant non-covalently incorporated into the erythrocyte cell surface membrane or an intracellular compartment of the erythrocyte.

83. A composition comprising a tumor cell that comprises a tumor-associated ganglioside antigen, the cell including an adjuvant non-covalently incorporated into the cell surface membrane or an intracellular compartment of the cell.

84. The composition of claim 83, wherein said tumor cell is an irradiated tumor cell.

85. A m method for stimulating an immune response, comprising administering to an animal an immunologically effective amount of an adjuvant-cell composition comprising a tumor cell that comprises a tumor-associated ganglioside antigen and that includes an adjuvant non-covalently incorporated into the cell surface membrane or an intracellular compartment of the tumor cell.

86. A composition comprising a melanoma cell that includes an adjuvant non-covalently incorporated into the cell surface or an intracellular compartment of the melanoma cell.

87. The composition of claim 86, wherein said melanoma cell is an irradiated melanoma cell.

88. The composition of claim 86, wherein said melanoma cell is a human melanoma cell.

89. The composition of claim 88, wherein said melanoma cell is the human melanoma cell M27, M18, M14, M111, M22, M7, M102, M108, M16, M104, M109, M25, M24, M10 or M101.

90. The composition of claim 89, wherein said melanoma cell is the human melanoma cell M14, M7, M24, M25, M10 or M101.

91. The composition of claim 86, wherein said adjuvant is monophosphoryl lipid A (MPL).

92. A method for stimulating an immune response, comprising administering to an animal an immunologically effective amount of an adjuvant-cell composition comprising a melanoma cell that includes an adjuvant non-covalently incorporated into the cell surface or an intracellular compartment of the melanoma cell.

93. A composition comprising a cell that includes a detoxified endotoxin adjuvant non-covalently incorporated into the cell surface or an intracellular compartment of the cell.

94. The composition of claim 93, wherein said detoxified endotoxin adjuvant is monophosphoryl lipid A (MPL).

95. The composition of claim 94, prepared by a method comprising the steps of:

- (a) preparing an MPL-suspended culture media composition by sonicating MPL with a culture medium; and
- (b) admixing said MPL-suspended culture media composition with a cell composition under conditions effective and for a period of time suitable to allow incorporation of the MPL into the membrane or an intracellular compartment of a cell, thereby preparing said composition.

96. The composition of claim 93, wherein said cell is a human cell.

97. The composition of claim 93, wherein said cell is a tumor cell.

98. The composition of claim 97, wherein said cell is an irradiated tumor cell.

99. The composition of claim 97, wherein said cell is a tumor cell that comprises a tumor-associated intracellular antigen.

100. The composition of claim 97, wherein said cell is a melanoma cell.

101. A method for stimulating an immune response, comprising administering to an animal an immunologically effective amount of an adjuvant-cell composition comprising a cell that includes a detoxified endotoxin adjuvant non-covalently incorporated into the cell surface membrane or an intracellular compartment of the cell.

102. A composition comprising a cell that includes an adjuvant non-covalently incorporated into the cell surface or an intracellular compartment of the cell, the composition prepared by admixing an adjuvant composition with a cell composition under conditions effective and for a period of time suitable to allow incorporation of the adjuvant into the cell surface membrane or an intracellular compartment of the cell.

103. A method for stimulating an immune response, comprising administering to an animal an immunologically effective amount of an adjuvant-cell composition comprising a cell that includes an adjuvant non-covalently incorporated into the cell surface membrane or an intracellular compartment of the cell, the adjuvant-cell composition prepared by admixing an adjuvant composition with a cell composition under conditions effective and for a period of time suitable to allow incorporation of the adjuvant into the cell surface membrane or an intracellular compartment of the cell.

The present application is a continuation-in-part of U.S. patent application Ser. No. 08/353,549, filed Dec. 9, 1994 (now abandoned), the entire text and figures of which disclosure is specifically incorporated herein by reference without disclaimer. The U.S. Government owns rights in the present invention pursuant to grant number PO1 CA12582 from the National Institutes of Health.

Background/Summary: Show background/summary

Drawing Descriptions: Show drawing descriptions

Description of Preferred Embodiments: Show description of preferred embodiments

Foreign References:

Publication	Country	Date	IPC Cl
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